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ABSTRACT

This article provides suggestions for librarians who are planning for the construction of new library buildings or the renovation or conversion of older buildings. The recommendations are based on practical experience gained by a Director of University Libraries in the planning and construction of Tompkins-McCaw and James Branch Cabell Libraries at Virginia Commonwealth University. Reference throughout the article is made to the writings of five recognized authorities in the field of library building construction and furnishings: Ralph E. Ellsworth, Ellsworth Mason, Keyes D. Metcalf, William S. Pierce, and Godfrey Thompson. Particular attention is given to areas inadequately recognized by these authors including exteriors of library buildings, building approach and access, bicycle accommodations, lighting, sprinkler systems for fire protection, carpeting of floor surfaces, wall coverings, pest control, pesticide treatments, and refuse disposal. The role of the librarian in architectural planning, and the importance of hiring a library building consultant and utilizing library service statistics when planning a library building are also considered. The article concludes with two lists outlining cost and capacity figures for the Tompkins-McCaw and James Branch Cabell Libraries, and a six-item bibliography. (Author/ESR)

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BUILDING A NEW LIBRARY
OR
RENOVATING AN OLD,
SOME THINGS TO CONSIDER

BY

GERARD B. McCABE

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ABSTRACT

Librarians planning new construction or modifications in existing library buildings rely on the writings of recognized authorities in the field, especially Metcalf, Mason, Ellsworth, Thompson, and for furnishings, Pierce. Drawing on practical experience over a twelve year period with two significant library buildings, the author discusses areas that were not emphasized sufficiently in his view or were little recognized by these authors. Particular attention is given to the handling of exteriors and entryways, bicycle accommodations within and outside of a library building, pest control, trash disposal, and service statistics.

PREFACE

When this paper was written, I was Director of University Libraries at Virginia Commonwealth University, Richmond, having served in that capacity from August 1970 to June 1982.

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August 17, 1982

This article recounts experiences gained in the planning and construction of two academic library buildings at Virginia Commonwealth University. The first of these is the Tompkins-McCaw Library serving the Medical College of Virginia campus of the University. The original library building with just over 16,000 square feet of assignable space was constructed in 1932. The architectural style is Georgian trimmed with Indiana limestone. The new addition to this building was designed to match the original building on the exterior and it provided an additional net assignable square footage of more than 40,000 square feet, raising the total of assignable square feet to 56,993. The greater part of the planning for this building with which I had no connection was done in the 1960s, however, construction began after my arrival in 1970 and completion occurred in March, 1973. Enrollment on the Medical College of Virginia campus is approximately 2,400 students and faculty. In addition there are about 400 housestaff plus a large number of other professional personnel attached to the University hospitals. These are the library patrons.

Construction of the James Branch Library, Phase I on the academic campus was completed in the summer of 1970. The original two story structure was completed in July of that year and furnished with shelving the following month and occupancy began near the end of August. I had no responsibility or involvement in the planning or construction of Phase I but I was on the scene for the delivery of furniture. The shelving had been installed prior to my arrival. The original Phase I provided a gross area of some 80,000 square feet of which about 60,000 was usable for collections, staff work space, and patron seating. In 1975 Phase II, for which I wrote the building program, added an additional 130,000 square feet, producing a building of about 210,000 square feet, a large proportion of which is assignable, almost 85%. This entire building has mirror glass windows which create a very impressive visual effect and help moderate the sheer size of

the building itself. It is the most imposing of the buildings on the academic campus. Finished with precast concrete panels surfaced with river gravel, subduing the overall effect of the concrete and producing a most pleasing appearance, it is a photographer's delight. The Cabell Library is considered one of the most attractive of the modern buildings in Richmond. The campus it serves has an enrollment of over 17,000 students, 700 faculty, and a professional staff of about 200. Both libraries provide substantial service to the community and to the State.

After several years of actual working experience with these buildings, shortcomings in the planning became more noticeable; in reviewing the need for changes and adjustments, the literature of our profession on planning and construction of library buildings was found deficient in certain areas; it is these perceived areas that are addressed in this paper.

Prior to my involvement with the Tompkins-McCaw and Cabell Libraries, I had written programs for a large library building and two smaller facilities. At that time, I had read all of the available literature. I reread some of this literature when doing the furniture layouts for the Tompkins-McCaw Library and prior to writing the program and doing the furniture layouts for Phase II of the Cabell Library. Now for the purpose of writing this article, I reviewed again the significant works of these major authors, Metcalf, Mason, Ellsworth, Thompson, and added one new one, Pierce, to complete the list.

Even though construction of academic library buildings in the United States has declined in recent years, there is still sufficient new construction being planned to justify concern for the content of the building program. My interest is making recommendations for consideration by librarians involved in building projects of any type. Construction of

completely new academic library buildings has declined to a considerable degree, but there is now great need for renovation, even of buildings constructed as recently as the early 1950s. Certainly some buildings of the 1950s are now filled to capacity and librarians are finding it difficult to cope with growing collections, new electronic requirements, new services, and other things that somehow or other must be accommodated within an existing building. Some of the changes that will need to be made in specific situations are obvious: improving electrical facilities, removing unneeded walls, thereby enlarging rooms or opening passages, relocating service points, and similar matters such as these may come easily to the librarian responsible. Presented here are observations and suggestions, based on actual experience with two library buildings in a growing university that may be helpful in planning for new buildings, renovations, or even conversion. These considerations are described in the subheadings and all comments are based on current practical experience. Many of these items are ordinarily left to the architect who assumes general responsibility for service features of any type of building. While in the past this may have seemed proper, a librarian should be concerned and communicate more with the architect about these requirements, particularly today. Some of these concerns impinge upon the daily work of the library staff and on the relative comfort of library patrons. More attention should be paid to them, particularly if the academic library is experiencing an increased demand from its patrons. When a major project is being planned, whether it is for conversion of a non-library building, a renovation of an existing library building, or new construction all librarians should consider these details, as well as details that are ordinarily standard to a library building program, than heretofore has been the case. Under the subheadings

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that follow are described some observations of items that should be of concern to those who are preparing for any kind of change and which should be reviewed in planning the project.

THE ROLE OF THE LIBRARIAN IN ARCHITECTURAL PLANNING

When a new library building, renovation, or addition to an existing building is planned, considerable responsibility falls on the librarian in charge of the library, specifically the person who carries the duties of Head Librarian. Even when assistance is available in the form of a planner on the library staff, or a library building consultant, many decisions come back to and depend on the knowledge of the incumbent head librarian. Unless this individual is trained and knowledgeable about building requirements and has sufficient time, the services of a qualified library building consultant should be obtained. With very large projects this should always be done. A qualified consultant contributes much to the success of a project, but cannot be expected to have the fullest appreciation for local requirements, that falls to the head librarian. This individual bears responsibility for numerous factors arising during the planning and the construction stages and, eventually, the success of the final outcome. There is no way to delegate this responsibility to a library building consultant, to an architect, or to anyone else, because none of these people were on the scene prior to the decision to make a change and most will not be on the scene afterward. There is no one else who can be held accountable for satisfaction or displeasure when the project is completed. This is not to say it is essential or even necessary that the individual be trained in library building planning, or have more than the usual knowledge of library building requirements, but the head librarian must have a good understanding of what is required and what can or will be helpful in planning a successful project. The head librarian must know the local situation thoroughly.

In determining internal requirements within the library, again whether discussing a new building or a renovation there is no substitute for a good knowledge of the characteristics of the patrons. Even today study habits will vary from one college campus to another. It is not uncommon to find group study by students very common on one college campus and on another individual study is the order of the day, with very little group participation; in some situations a mixed approach is the habit of the students. All of these can be accommodated by a mixed seating plan, a combination of tables, study carrels, individual and group study rooms, and casual seating in ratios suitable for the situation. In certain types of academic libraries, individual locked study carrels are provided for faculty and graduate students, yet in another type of academic library these may be unnecessary. Only the head librarian with good local knowledge of the needs of the library patrons can provide the answer to these questions. Features that are not required by patrons are unnecessary and expensive, so very particular attention must be given to patron requirements.

For the academic librarian the location of the existing library, or the new planned library, in relation to existing and future academic buildings is most important. The librarian must know where future academic buildings will be located in relation to the library. The librarian will not be involved in every instance of campus planning, but should have a good working relationship with those individuals who are so that information is provided on a current basis. It is obvious that a new library building's entrance should face the direction from which most of its patrons will come, unless there is some need to orient the building in another direction for reasons of energy savings, or some other consideration where long term costs are a serious factor.

It suffices to say that the head librarian, even though untrained in library building planning, should have a thorough knowledge of the library's patrons, whether they are students, faculty, or members of the community; their research and study

habits; future plans for new buildings on the campus; future developments in the academic program; and a very good knowledge of the ways in which the patrons use the library as it presently is, prior to the beginning of planning for any kind of change. When a library building becomes overcrowded with materials, a decision to add additional stack space to accommodate excess materials and future growth may seem simple enough, but still questions can be raised. Will the new addition for library materials change user habits within the library? Will it compel patrons to travel long distances between shelving areas and seating areas? Will it generate new traffic patterns? Will it require relocation of certain services? Should copy machines be provided with the new space, rather than left where they are, some distance from this new shelving area? Only the librarian who thoroughly knows and understands the local situation and its requirements can be successful and take credit as justified when a successful project has been achieved.

THE LIBRARY BUILDING CONSULTANT

A building consultant is an essential aide when planning a library building, whether it is new, an addition, a renovation, or even a storage facility. All the authors discussed here recommend employing a consultant. Mason goes so far as to recommend getting several if funds permit. A good general consultant is always important and if a specialist can be afforded so much the better. As Mason notes, specialists in the areas of lighting, energy savings, furniture and equipment, can complement the work of a good general consultant helping produce a very satisfactory solution at final project completion. The heyday of academic library construction may seem to be over and the number of consultants dwindling, nevertheless, it is worth a careful search to find the one with the best understanding and appreciation of the needs of the institution. Once a decision for change is made, first priority should be hiring a consultant.

The library consultant, often a professional librarian,

interprets the needs and wishes of the head librarian, the library staff and the patrons to the architect. These requirements are determined after serious consultations have occurred with faculty, students, staff, and administrators of the institution. The project program, a written statement of these needs usually translated into spatial requirements, can be and frequently is prepared by the consultant. As the project proceeds, the consultant will review preliminary drawings and blueprints, suggest improvements, note oversights, and bring a depth of experience to the project. When the construction is underway, the consultant makes site visits and aids in resolving questions that arise during this phase. The real value of this assistance is immeasurable.

Good library building consultants are found in all regions of this country and can travel from one region to another. The consultant will obtain through reading a good familiarity with the library's locale. The head librarian and staff can fill in other pertinent details, including such things as the vagaries of the weather, should the consultant be from another geographic region.

SERVICE STATISTICS

No matter what is thought of keeping statistics to record transactions and other information, there is no question that certain data when kept in an orderly fashion can be very useful in the planning of a new library building, a renovation, or an addition. The authors cited say virtually nothing about service statistics nor statistical projections of activities. This lack of notice in key literature should not detract from their importance. Accurate service statistics are very useful in planning, though some caution can be advisable as will be noted further on in this section. A library consultant's advice will be useful here as well.

Typically, an academic library records the number of reference questions asked, interlibrary loan transactions,

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volumes added, and other data. This information is useful in informing the architect of need for work space, work flow, etc. Some libraries keep records of the number of people who enter the library during the course of a day. Such a record can be useful in many ways. When the preliminary planning for the James Branch Cabell Library at Virginia Commonwealth University was underway, no one provided an estimated daily entrance rate to the architect. This library's main entry doors are anodized aluminum, dark brown in color, with tinted glass, and altogether a very attractive appearance. Within seven months of the library's opening, minor mechanical problems occurred with these doors. The aluminum push bars began to wear very badly because of the frequent openings as people exited from the library. At that time entries to the library were averaging 50,000 a month. Adjustments to the doors were made. Now, in a typical month of the academic year, the Cabell Library experiences entries exceeding 100,000 with peaks over 130,000. With some idea of this traffic, the architect may have planned the doors differently. The building handles this volume quite well. Still, this is good fortune and cannot be assumed, accurate projections assist greatly in planning for entry, lobby, and stairwell space and other means of transferring people throughout a building. Too many library architects have not given enough attention to this question. Often, it is the fault of the librarian who did not provide the architect with sufficient data concerning the number of patrons attending the library daily. Neglect of this information can also affect the ease of access and egress by handicapped persons.

Work data conveys a sense of proportion to the architect and helps reinforce the reasons librarians proffer for work space. The seemingly tedious chore of keeping statistics results in obtaining a better and more comfortable building. The architect will make the building attractive inside and out, but if traffic spaces and work rooms are really to be satisfactory, the librarians must fully describe the need

and furnish some evidence in support of it.

When planning a new building to replace an older one, be wary of the service statistics of the old building. Relying on utilization data for a small crowded library can be dangerous if used for forecasting potential use of a new or expanded facility. More than one example of poor planning is attributable to this type of error. In some situations involving a shift from an old overcrowded facility to a new modern facility average daily entry counts have been known to double and even triple, unless the architect is forewarned of this, traffic areas could be seriously inadequate. Other service demand increases of substantial proportions can occur. Even on a campus where enrollment is stable and library dependent academic programs have changed little, unexpected increases in attendance can occur and problems ensue because of inadequate projections. Here a consultant can be helpful, knowing what to anticipate and how to plan for it is important.

In a new building moderate increases in efficiency can occur as well, and while this may not have been anticipated it is appreciated. A coordinated technical services area, planned for a smooth work flow and using correct spatial considerations will produce a greater production, though staff levels and purchasing power remain in balance.

Reference productivity can increase too, but here trouble arises because the new quarters attract more patrons, heretofore not library users, and workload increases become so dramatic that plans to add new services are disrupted. New staff positions for the new building may be assigned to reference services to relieve a suddenly overloaded staff inadequate in numbers. The embarrassed head librarian now finds it necessary to request even more new positions if the new services are indeed to be added to the new library. This is not a happy prospect in these times.

My initial experience with the Cabell Library was painful in its first stages because of this exact failure to project ahead for the new space. Among other events, an influential private donor was very unhappy because after I moved the library collections from the prior library, a converted carriage house, into Phase I of the Cabell Library, no special collections librarian joined the staff. All available new positions quickly went into reference and circulation. In the Fall semester of 1970 as the student body responded to their new library, the first obvious planning failures were a lower level reserve reading room and unenclosed periodical shelves on the main level. Current periodical issues were disappearing all over the building, and traffic in the reserve reading room did not justify the commitment of two full time staff members and the space assigned by the planners. At the holiday season, the reserve collection went to the main floor behind the circulation desk adding two badly needed staff members, and the periodicals collection went into the reserve reading room, translating that space to a periodicals reading room. A knowledgeable consultant would have foreseen this and advised the original planners thereby saving me the headache of a drastic mid-year shift in staff and equipment. Today, there is a new periodicals reading room in Phase II, and the reserve collection is with it. This first reserve room now houses the Catalog Department.

Photocopy service statistics provide another interesting consideration; surely the statistics from the old library are perfectly valid? No, again an increase of dynamic proportions can occur as students take advantage of the new library's easily accessible photocopiers to copy every class-note they have ever taken, and when they turn to library materials - so much more available - photocopying volume goes up. The challenge here is to provide a balance between a sufficient number of machines, and the available labor supply, i.e., the available staff to reload paper, toner, etc., and make change for coin operated machines. A good library consultant knows how to plan for this service, and

the consultant's advice should be sought and taken. This is one area where librarians cannot afford to make mistakes. Student ire at a breakdown in photocopying service can result in extensive mutilation to valuable periodical and book collections. It may seem ironic but it is true.

EXTERIOR DESIGN - APPROACH AND ACCESS

Usually, librarians planning a new building give all their attention to the interior. Naturally enough, their concern is getting a functional building, having enough staff work space, smooth interior traffic flow, so this consumes all their attention. Our literature is at its best here. The authors cited are superior. But all libraries have an exterior, and it is perilous to ignore this; before the interior benefits are realized patrons have to get to the library and enter it. The head librarian must insist on a well designed exterior - on all sides of the building. Motorists, bicyclists, handicapped, walkers, the seeing, and the visually handicapped all must have smooth and easy access, not interfering one with the other. Easy graded approaches are the best rule for major pedestrian walkways, bicycle paths, parking lots, whatever ways patrons will use to get to the library. On concrete paths a rough surface should be used to help avoid possibilities of slipping.

Older campuses and urban, downtown institutions where space constraints are severe have a real challenge. Careful planning can resolve access problems, ingenuity may be strained but solutions can be found. Particularly critical are resolutions for the visually handicapped, those with mobility handicaps, followed by special arrangements for storing bicycles and other vehicles. Here again, consultants can be very helpful.

The head librarian must insist that bicycle parking be provided and that it be off pedestrian paths, out of the way of handicapped access, not protruding on walk ways to interfere with the passage of blind students, wheelchairs, or anyone who is approaching the library. Bicycles must not be allowed to

clutter the front entry way so that blind students particularly cannot make their way pass them or so that they block access for wheelchairs. All too frequently masses of bicycles are seen piled up around bicycle racks in front of academic library buildings. This is nonsense and must be avoided. Plan for bicycles as part of exterior design. For motor vehicle parking there must be good access, hopefully not too far from the building but of sufficient size to accommodate a reasonable number of vehicles, and of course, be a well lighted secure area.

Both entry ways for our libraries have been reviewed and tentative plans made to modify both for better accommodation of the physically handicapped and faster access and egress by all patrons. The Tompkins-McCaw Library will receive a new ramp at a side door, designed in harmony with the existing architecture for access by individuals in wheelchairs. The original ramp led to the receiving room and was far too steep for safety. For the Cabell Library, plans provide for power doors with overhead openers, replacing at least two of the existing doors at the main entrance, possibly combined with a pedestal mounted push button arrangement for individuals approaching the doors in wheelchairs. The power doors even though consuming some energy appear justified by the high volume of traffic. A thoughtfully planned entryway for an academic library building can be seen at Washington and Lee University Library in Lexington, Virginia. Here the architect provided in the vestibule a sunken drain pan covered by a grill. Patrons entering the library can remove rain water or stamp snow off their feet, something like the dripping area Thompson recommends in his volume for shedding rain water off outer apparel.

BICYCLE ACCOMMODATIONS (EXTERIOR DESIGN)

When it comes to the bicycle our authors fail us completely. Only Thompson mentions cycles very briefly

giving no indication as to the extent of the need for provision for them. In Mason's book, there is a picture of the Yale courtyard, a view of the Beineke Library with bicycles parked in racks in the foreground and a large number of bicycles parked every which way. Obviously, not very well planned, but nowhere in his text does Mason mention bicycles. National concern with energy savings, with exercise, and general good health has made the bicycle a very popular item and indeed a necessity on many large campuses. Well planned parking facilities for bicycles are not always a feature of the exterior of academic library buildings. More attention should be given to bicycle parking areas. One suggestion is the use of bicycle cul-de-sacs. These are areas with bicycle racks set off by shrubs or barriers so that they are not in the way of pedestrians, nor does a pedestrian need to enter such an area unless retrieving a bicycle.

Another solution to this problem can be seen at the Moffat Library, University of California at Berkeley. Here one end of a patio adjacent to the main entrance is fenced off as a parking area and a student security guard sits in a booth. This is a good solution to the bicycle problem, although labor intensive. The student association provides the guard and the service extends until midnight. The bicycles, wheeled through a gate, are parked on this patio while the attendant stands guard. A ticket is issued to each bicyclist.

All too often, bicycle racks are put off to one side of a library entrance, frequently along the edge of a walkway used by many people. Bicyclists attempting to park or remove their bicycles often times become impediments in the way of pedestrian movement. Careful planning avoids this and the general unsightliness.

If a library building is located in an area where other hazards are present, such as theft, some consideration should be given to staff requirements. If there is

a reasonably secure auto parking area for library staff, then some provision for bicycles could be made within that area, but separate parking areas are preferable. Separation avoids confusion and possible collisions during arrival and departure periods. If there is not a convenient, safe parking area, then some consideration should be given to an interior room, near a rear exit provided with a ramp. Considering the large number of library staff who may be bicycle riders, this is not unreasonable. In the secure exterior area, a canopy over the rack will keep bicycles dry in inclement weather.

An alternative to the traditional bicycle rack is a concrete stand with a wheel well which permits locking down a bicycle wheel. The sheer weight of the concrete prevents removal.

In 1970, for the Cabell Library, two bicycle racks were placed near the entrance. Tompkins-McCaw Library had one rack. Within a year at the Cabell Library, disaffection with the racks because of theft led to staff being permitted to bring bicycles into the rear entrance of the library. This is still current policy, and led to these remarks.

LIGHTING

As electric utility bills continue to increase, the most obvious concern is for lighting, the most conspicuous area of electrical consumption. Is it excessive? Can it be reduced? This concern comes first to mind, even though the library is adding new electronic equipment, and some services are being introduced that involve machines operated by electricity. What are the priorities? If patrons are to use the library in the traditional way, good lighting is essential; so we have no choice but to define a standard of good lighting and use it as a base. Today, many experts agree that a level of 50 foot-candles provides acceptable lighting for most activities. We have adjusted lighting in both Cabell and Tompkins-McCaw libraries to this level and have no complaints. In some situations lighting levels can be reduced even further, when patron occupancy is low.

After Phase I of the Cabell Library was occupied in August 1970 and settling in began of staff and patrons, everyone was enamored of the new building. The prior library was old and crowded, the new two level academic campus library was a relief and a joy. After a time though, some complaints began to come to our attention. Notes began to appear in the suggestion box by the front exit expressing dissatisfaction with certain details. One item repeated several times concerned bright lighting. Using certain recommendations of the 1960s the architect had planned on a lighting average of 100-125 foot-candles, reading areas appeared to be particularly well lighted. This though the ceiling lighting fixture pattern was the same everywhere. Why were there complaints about the brightness and about glare? With a light meter we took both day and evening readings. Much to our surprise we discovered because of the mix of reading surfaces and the lighting pattern that in some areas lighting levels on the reading surfaces approached 200 foot-candles. This was much too bright and certainly the complaints were justified. We took immediate steps to reduce lighting to an average of 100 foot-candles by removing some flourescent tubes from each of the fixtures, so as to decrease the intensity.

If the Cabell Library's original planners and the architect had read the standard authors, at least Metcalf, and had thought further about this, they would never have fallen into the trap of excessive lighting. (It was later that I began to realize that even an average of 100 foot-candles was excessive.) In the meantime, we called this to the attention of the architect and in the planning for the Tompkins-McCaw Library we were able to plan for a level of 100 foot-candles, still believing that this was a good recommendation. As time went on and the electricity bills began to climb we learned that an average reading level of 50 foot-candles was satisfactory. When the local utility notified the university that rates would increase we reduced the lighting

levels in both libraries by removing a quantity of fluorescent tubes. In writing the building program for Phase II of the Cabell Library (i.e., the upper three floors) I asked for an average lighting level of 50 foot-candles. This level has proven adequate, and though a keen eyed patron can at times detect some slight differences between lighting levels on the first floor and those on the upper three floors, the overall effect has been quite satisfactory. We have not received any complaints attributable to this new level of lighting.

Our Tompkins-McCaw Library addition, completed in 1973, includes an unfinished sub-basement. A proposal has been prepared for completion of that space. In the program, area control of lighting throughout the floor is requested. The lighting over the stacks will not exceed 25 foot-candles and the lighting intensity in reading areas will not exceed 50 foot-candles. The architect was asked to place light switches periodically around the walls so that stack areas illuminated partially by safety lighting can be area controlled. This means that patrons will be able to turn on lights only in those sections where they are actually looking for library materials. We anticipate that this sort of control will provide a substantial savings. Any renovation of stack space should include area control lighting, particularly when the area is quite large.

On lighting, Metcalf is the most informative because he gives a brief historical review of the attitude in this country toward lighting as measured in foot-candles, ranging from recommendations at the turn of the century for a light intensity of 1 or 2 foot-candles up to 70 foot-candles for reading areas by the late 1950s. Our colleagues in Europe have never provided excessively bright lighting for their libraries using, according to Metcalf, not more than half the level recommended in this country. Metcalf expressed some hesitancy in 1965 about this tendency toward higher levels. Today we know that his hesitancy was more than justified as we begin retreating away from levels in ex-

cess of 100 foot-candles back toward 50 foot-candles for average reading areas and even lower intensities in other areas of our libraries. Metcalf's words of wisdom are valid even today. He prefers lower intensities, a more economical approach to lighting; the high cost of energy in the 1980s more than bear out his wisdom. As he ends his section on lighting he expresses his belief that 25 to 30 foot-candles is adequate, recognizing that some supplement could be required in certain areas of the library.

In his 1980 volume Mason furnishes a model program and addresses the question of lighting by specifying that 55 foot-candles is the desired level wanted throughout the library with the exception of certain areas. Here he differs with us by only 5 foot-candles but his exceptions include the circulation desk, card catalog, staff work rooms, faculty studies, for all of which he requires a higher level of 70 foot-candles; for restrooms, he recommends 40 foot-candles. The card catalog disappearing from many libraries has nearly disappeared from these two libraries, so the 70 foot-candle requirement is no longer valid for that area. Indeed, only enough lighting to permit the taking of notes and the writing of call numbers from a COM catalog reader or from a cathode ray tube terminal should be sufficient. Both of these have rear lighting. If energy costs continue to rise this is one area that will require special attention and some correction.

SPRINKLER SYSTEMS (FIRE PROTECTION)

Some states are now requiring installation of sprinkler systems in library buildings. These are now required in Virginia, but our buildings predate this requirement. Both VCU libraries have fire hose cabinets and fire extinguishers placed in various areas. We have no major plans for change; but if one must be installed, the librarian should advise the architect on acceptable features for a sprinkler system. If fire laws permit, plan for area control, that is for situations where only sprinklers in an area where fire is

suspected will turn on, rather than sprinklers turning on in a large area. In secure areas, halogen gas is preferable to sprinklers. The Mariners Museum in Newport News, Virginia has a halogen gas system in its rare materials area. At VCU, we may consider a similar system for our special collections secure shelving area in the future. Provision for smoke removal and evacuation of the building as quickly as possible is, of course, essential. Ventilation systems must clear up smoke and gas quickly when the fire is out. (Be sure to check on automatic air exhaust features)

FLOOR COVERINGS - CARPETING

On this question of carpeting William Pierce is perhaps the most thorough and definitive. He endorses carpet, recognizing the fact that carpet is excellent for the reduction of noise, and while he prefers that libraries be carpeted "throughout", he does emphasize the need to carpet the traffic areas for the purpose of reducing noise. He does not indicate specifically the use of carpeting in work areas, but apparently, it is not his attention to exclude carpet from these areas. The only exclusion noted in his text are restrooms, utility, and storage spaces. In our library buildings, all study areas are carpeted, while traffic and work areas are not, Virginia State regulations prohibited this at the time. Carpet adds greatly to the decor of a building, helps influence patron attitudes, improves the overall appearance of a building and greatly aids in noise reduction. We have used the glue down method and are satisfied with it. As it was in Virginia some states' regulations preclude the carpeting of work areas. Our experience clearly shows that this is an error. If it is at all possible all areas of the library should be carpeted. In his model program, Mason notes the importance of carpeting by making it perfectly clear in his list of special requirements that "floors - carpeting" is his recommendation. One can only applaud until coming to the statement for the catalog department where we read " - carpeting in offices,

vinyl elsewhere". The applause fails at this point as we disagree. We have had requests for carpeting in our catalog department work area and study has shown that this request is justified. Staff concentrating at a card cataloging terminal find noise caused by book trucks rolling on a plain floor or people passing by distracting. The entire catalog department should be carpeted so that a quiet operating atmosphere is provided for the high level of activity occurring at the catalog computer terminals. Carpet will provide an even quieter work area and permit the kind of concentration that is essential for high level job functions. Obviously, something must be done to change attitudes toward carpeting in libraries. People cannot help making noise. When large numbers of people use the library for all its varied services they do make noise.

Mr. Metcalf endorsed carpeting but did not emphasize strongly enough the fact that an entire library with very few exceptions should be carpeted. He did not emphasize the need for carpeting in work areas but today experience with computer terminals and the demands for high level performance in technical services, for example, dictates that carpeting be used in all technical services areas: carpet should be used in all reference areas and anywhere high quality work is expected and where conditions warrant this extra benefit. The acoustical benefits are without question; Metcalf noted these and gave them the importance they deserve. Carpet helps greatly in preserving a comfortable atmosphere for that study and research so important to our patrons. Ellsworth encourages the use of carpet and some of his illustrations in Academic Library Buildings show how students react when the library is carpeted.

Another very important feature noted by Metcalf but not often seen in recent academic library buildings is a built-in vacuum cleaner system. This can be useful even for uncarpeted areas, regrettably, neither Cabell nor Tompkins-McCaw Library has this feature. Built in vacuum cleaners

provide an excellent savings in labor and a fast efficient way of cleaning floors. Eventually, with a change in regulations, we plan to carpet the entire public area of our libraries and all work areas, especially the reference offices and the catalog department. The projected gain in efficiency and productivity appears ample justification.

WALL COVERINGS:

In 1970 we were disappointed with the drab appearance, two-tone beige of Cabell's Phase I, "A clean well-lighted place," ala Hemingway's short story, but drab, so drab. After the settling in and the honeymoon period is over, the reaction began. Students placed notes in the suggestion box and staff commented on the lack of inspiration in the floors and walls. Our answer was to obtain the services of a graduate student as our interior designer. We wanted to have the library convey the feeling of a place attractive to students, yet conducive for faculty and staff as well. This appeared logical and the results justified the decision.

As we were planning for the addition of Phase II to the Cabell Library we were in the process of arranging for final details for the Tompkins-McCaw Library. We asked the staff to select the basic wall and furniture colors. Our student interior designer took their recommendations and worked up combinations including furniture fabrics that resulted in a very fine and tasteful appearance for this graduate research library.

In both our libraries we used a very good quality vinyl wall covering on many of the walls, though regrettably not enough. Our designer's use of patterns of mixed colors for wall coverings added a striking variety to the buildings. These will last for many years, save the cost of several repaintings of walls, and contribute to a pleasing atmosphere. Money for this was well spent. Sufficient time has passed to justify saying our experience has been most

satisfactory. In certain high traffic areas such as around elevators, corridors, and similar places where people pass in close contact with walls, a combination of wall covering and paneling is very effective and most economical over a period of years, because of the savings in the cost of paint and labor. Covering columns in study areas is also advised. Mason has something to say about wallcoverings in his book but the earlier volume by Metcalf has nothing to say. The use of wallcoverings in libraries I believe is becoming more prominent and as noted in this text, certainly is important for high traffic areas. If the library is being built or renovated for an institution where maintenance has been a problem, the librarian at that institution would do well to get as much wallcovering as possible. Long intervals between paintings in a building such as the library can produce some very terrible effects. After a period of ten years a general atmosphere of deterioration begins to prevail and the results can be devastating as paint turns to dust, an ancient enemy of books. As dust levels increase, the best of modern air circulating systems are taxed to maximum efficiency.

PEST CONTROL AND PESTICIDE TREATMENT

In his landmark volume Metcalf includes a section on insects and remarks that a small fumigation chamber for the treatment of book shipments particularly if they come from other parts of the world will be useful. Any library which is also dependent upon donations of domestic private collections must have a pesticide control area. All such material should be treated before processing. This is the only way to guarantee that the ubiquitous roach and silverfish will not be introduced into the library.

The logical place for this fumigation chamber or room is in the lower floors of the library with proper exterior ventilation. No provision was made for this in the original planning of Phase I of the Cabell Library, and of course, it

was not considered at all for the Tompkins-McCaw Library, a health sciences library. Both libraries suffered from this lack. To resolve this oversight a trash collection room with no interior ventilation and thankfully - an exterior door in the Cabell Library basement was selected for use as a fumigation room. Whenever a donation, large or small, is received for either library, or is of a suspicious nature, it is stored in this room. When the accumulation is sufficient, a pesticide control agent comes and seals the room and fumigates thoroughly. This occurs several times a year. While it is expensive, it is an essential safeguard for preventing the entry of insects that could cause serious damage to our collections. For those libraries where space considerations are limiting, Metcalf's advice should be followed and a small fumigation chamber should be provided. Again, provide for exterior ventilation for this commercial machine.

In this same vein it is important that regular pesticide treatment be given any library building regardless of its geographic location in the United States. Too many harmful insects often are found even in the best of our modern buildings. There is no guaranteed method of keeping them out, no way to prevent their entry; therefore, a regular program of pesticide control is the only answer. An extermination company should be under contract for regular treatment of the library building. In a new facility this may seem like an unnecessary expense, but in an amazingly short time, roaches and silverfish will be visible. It is not advisable to wait until they appear, prevention is the only answer and the expense is more than justified.

REFUSE DISPOSAL

On this subject the literature virtually fails, Metcalf is vague; Mason says very little; the others say almost nothing. Pierce writing on furniture and equipment never even mentions a wastebasket. In our original planning for refuse disposal we provided a combination of variable sized wastebaskets,

janitorial service would routinely pick these up, empty them into a trash barrel mounted on wheels and eventually empty these containers into a dumpster. This arrangement still works in the Tompkins-McCaw Library, but was not fully successful in the larger Cabell Library. In the latter in 1975, we purchased a quantity of large plastic wastebaskets about two feet in height and 300 one foot high rectangular wastebaskets; about two years later an inventory showed that nearly two hundred of the small baskets had disappeared. In 1978 during the first semester we noticed that our daily accumulation of trash had increased substantially far beyond the capacity of our handling system. The janitorial staff now had a significant increase in its workload. Handling of trash requires better planning if present levels of library use increase or even remain at the same level. To cope with this problem, we supplemented our existing system by introducing new trash receptacles. Large wastebaskets, each holding a large plastic bag, in finished containers similar to those seen in fast food restaurants, but in a harmonious decor, are placed conveniently on every floor. When the plastic bag is withdrawn it is dragged across the floor, put on the service elevator, taken to the basement, and put into a dumpster. This resolved the question of too many unsightly wastebaskets overflowing with scrap paper, newspapers and discarded wrappers. A review of equipment catalogs shows that such receptacles are now available in attractive designs for interior and exterior use even carrying mottoes or slogans on them encouraging their use.

At the end of this book, Metcalf lists equipment that might be overlooked. He mentions trash chutes but warns of the danger of fire. If a new building is being planned, the concept of a trash chute should be considered. If it is permissible to have one, an architect can design a trash chute so incorporated into the design of the building that it will not detract

from its exterior beauty, and be very functional. A chute will allow the janitorial staff to use the simple force of gravity for the removal of trash bags from the upper floors. Most of the authors we are citing are writing and remembering the days when the low cost of janitorial service was not a factor. Today with economy a major concern of academic institutions a large janitorial staff and simple low cost cleaning of library buildings is no longer possible. Getting trash out of a heavily used building is quite a headache with a small janitorial staff. Plan ahead and avoid the problem.

Local policies will vary on the handling of trash and on such questions as whether or not patrons should be permitted to enter libraries with such potential trash as soda or coffee cups, food packs, lunch bags, and the like. Nevertheless, students will carry in college and other newspapers and quantities of scrap paper. Placing attractive trash receptacles along paths of entry will encourage people to use them prior to entering the building. Some of the authors recommend this, including Metcalf, however, note that these containers must be placed so that they will not interfere with traffic. Once inside the building and in study areas common wastebaskets alone will not prove sufficient with library buildings occupied to near or full capacity for many hours of the day.

Our future plans for both libraries include increasing the number of attractive receptacles for refuse and continuing to persuade patrons to an attitude of neatness. This will ease the burden on the janitorial staff and aid in preserving an attractive atmosphere in the buildings.

CONCLUSION

These are observations based on experience with two successful modern library buildings and on visits to other library buildings in various parts of the country.

Much attention in the literature has been given to proper arrangement of shelving facilities, to storage,

to seating accommodations, to work areas, but some of the items which I have described in the foregoing section have not been given much attention because they have never appeared to be problems before. These are usually items left to the architect, and for the most part in the past, the architect probably found what appeared to be satisfactory solutions. Today however, conditions have changed and before new library buildings can be satisfactory, or our renovations effective, we must pay far more attention to detail, even to what seems mundane, or the responsibilities of others. We are here to provide service, and the more patrons we can serve the better. It appears now that students are making far greater use of libraries, and we must be prepared not only to accommodate that use, but to grapple with its side effects, whether it be greater accumulation of trash, or more and more bicycles cluttering the entrances to our libraries. Everything we can do to provide satisfactory conditions for patrons will bring them back and encourage them to keep using the library knowing that it is a secure and comfortable place, staffed by people who care.

TOMPKINS-MCCAW LIBRARY

Original building: 1932
Net assignable: 16,276 s. f.
Baskerville and Lambert, Architects, Richmond, VA

New addition, completed, April 1973
Planning began in 1962 after discussion of
the need in 1961. William H. Jesse, Library
Consultant completed a study of the need in
1963

Project cost: \$2,121,570
Equipment: \$126,700
Sq. Ft. cost: \$39.62
Lee, King, Poole and White, Architects, Richmond, VA
J. Russell Bailey, AIA, Library Consultant

Final Capacity Figures

Gross area: 78,344 s.f.
Net assignable: 56,993 s.f.
Non assignable: 21,351 s.f.
Percent assignable 73%
Capacity: 162,000 volumes
Seating: 450

Exterior: Georgian style

JAMES BRANCH CABELL LIBRARY

Phase I Completion July 1970

gross area: 80,790 s.f., 2 floors.

Lee, King, Poole, Richmond, VA Architects

J. Russell Bailey, AIA, Library Consultant

capacity 225,000 volumes

seating: 775

(Planning for Phase I began in early 1966, occupancy occurred in August, 1970)

Project cost: \$2,170,000 Building: \$1,809,853

Equipment: \$193,187

Sq. Ft. cost \$21.34

Phase II

gross area 130,000 s.f. 3 floors

Lee, King, Poole & White, Richmond, VA Architects

J. Russell Bailey, AIA, Library Consultant

Gerard B. McCabe, (building program, furniture and equipment, planning)

Library Consultant

Project cost: Building: \$2,554,151

Equipment: \$300,000

Sq. Ft. cost \$19.65

Final Capacity Figures

Gross area: 210,000 s.f.

Net assignable: 178,500 s.f.

Non assignable: 31,500 s.f.

Percent assignable 85%

Capacity: 1,200,000 volumes

Seating: 2,000

Exterior: modern with pre-cast panels

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